

Remarks

Applicants respectfully request reconsideration of the present U.S. Patent application as amended herein. Claims 1, 8, 12, 18 and 20 have been amended. Claims 7 and 17 are canceled herein. Claims 19 and 26-30 have been canceled previously. No claims have been added or canceled herein. Thus, claims 1-6, 8-16, 18 and 20-25 are pending.

CLAIM REJECTIONS – 35 U.S.C. § 103(a)

Claims 1-6, 9-16 and 20-25 were rejected as being unpatentable over U.S. Patent No. 6,347,375 issued to Reinert, et al. (*Reinert*) in view of U.S. Patent No. 6,279,375 issued to Arnold, et al. (*Arnold*). For at least the reasons set forth below, Applicants submit that claims 1-6, 9-16 and 20-25 are not rendered obvious by *Reinert* and *Arnold*.

Claim 1 recites:

initializing a virus scanner during a pre-boot phase of a computer system from firmware that is embedded within the computer system in response to a computer system reset, wherein the virus scanner is executing in a virtual machine monitor (VMM) executing on the computer system, the VMM supporting at least one virtual machine (VM) executing on the computer system, wherein the VM executes an operating system that is different from the VMM and the operating systems executed by other VMs and the VMM acts as an input/output (I/O) controller for requests to selected I/O ports;

determining whether to perform a memory scrub based on a platform policy;

scrubbing data read from an I/O device of the computer system during the pre-boot phase by the virus scanner using a virus signature database before the data is loaded, wherein the virus signature database is stored in a place not exposed to the operating system and is updated during the pre-boot phase; and

enacting a platform policy if a virus is detected in the data.

Thus, Applicants claim virus scanning in response to computer system reset. Further, the virus scanner executes in a virtual machine monitor (VMM) executing on the computer system. The VMM supports at least one virtual machine (VM) executing on the computer system. The VM executes an operating system that is different from the VMM and the operating systems executed by other VMs and the VMM acts as an input/output (I/O) controller for requests to selected I/O ports. Claims 12 and 20 similarly recite the virus scanner, VMM and VM functionality.

Reinert discloses initiation of the virus scanner based on user input. See col. 7, lines 60-64. Thus, the virus scanner is not initiated in response to system reset. Further, *Reinert* does not appear to disclose or suggest the scanner, VMM and VM functionality recited in the independent claims.

Applicants agree with the Office Action that *Reinert* further fails to teach or suggest determining whether to perform a memory scrub based on platform policy. See Office Action at page 3. *Arnold* is cited to teach determining whether to perform a memory scrub based on platform policy. See Office Action at page 3. However, like *Reinert*, *Arnold* fails to teach or suggest the scanner, VMM and VM functionality recited in the independent claims. Therefore, no combination of *Reinert* and *Arnold* can teach or suggest the invention as recited in claims 1, 12 and 20.

The Office Action cites *Ho* to teach VM functionality. See Office Action at page 6. While *Ho* does disclose a VMM, *Ho* does not disclose the virus scanner executing in a virtual machine monitor (VMM) executing on the computer system, the VMM supporting at least one virtual machine (VM) executing on the computer system, wherein the VM executes an operating system that is different from the VMM and the operating systems

executed by other VMs and the VMM acts as an input/output (I/O) controller for requests to selected I/O ports. Therefore, *Ho* does not cure the deficiencies of *Reinert* and *Arnold* discussed above.

Claims 2-6 and 9-11 depend from claim 1. Claims 13-16 depend from claim 12. Claims 21-25 depend from claim 20. Because dependent claims include the limitations of the claims from which they depend, Applicants submit that claims 2-6, 9-11, 13-16 and 21-25 are not rendered obvious by *Reinert*, *Arnold* and *Ho* for at least the reasons set forth above.

Claims 7, 8, 17 and 18 were rejected as being unpatentable over *Reinert* and *Arnold* in view of *Ho*. Claims 7 and 17 have been canceled. Therefore, the rejection of claims 7 and 17 is moot. Applicants agree with the Office Action that *Reinert* and *Arnold* do not disclose VMMs or VMs. See Office Action at page 6. *Ho* is cited to VMMs or VMs. *Id.* However, *Ho* does not cure the deficiencies of *Reinert* and *Arnold* as discussed above. Therefore, the combination of *Reinert*, *Arnold* and *Ho* does not result in the invention as recited in claims 8 and 18.

CONCLUSION

For at least the foregoing reasons, Applicants submit that the rejections have been overcome. Therefore, claims 1-6, 8-16, 18 and 20-25 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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